## **PACKAGING**

INTERNATIONAL

# Quarterly Review



## Packaging Spotlight: Technology Advancements and AI within Packaging

Over the last several years, the packaging industry has undergone significant transformations driven by rapid advancements in technology. From the introduction of innovative materials and sustainable practices to automation and smart packaging solutions, technological developments are revolutionizing how products are packaged, stored and transported. As consumers look for convenience, sustainability and product safety, the packaging industry is leveraging cutting-edge technologies to meet these needs while enhancing efficiency and reducing costs.

One example of this transformation is the intersection of depalletization systems and artificial intelligence (AI) technology. These systems enhance the efficiency and safety of e-commerce fulfillment and warehousing operations and can more efficiently handle packages of various sizes. Automated depalletization has long been available for uniform pallets, but new systems allow for the depalletization of mixed-size packages. Al machine learning helps assess stacking so the machine can prioritize which packages to move and respond accordingly to damaged packages. Robotic depalletization systems safely unload pallets and deliver up to 40% cost savings when compared to manual labor, with scalability savings as well.

Machines such as these have recently been integrated to work alongside humans within packaging plants. Unlike traditional industrial machines, collaborative machines are Al-assisted for quicker learning and easier programming, making them highly adaptable for tasks like palletization. Key companies like Tetra Pak and Sealed Air are integrating collaborative machines into their manufacturing processes to enhance efficiency and safety. Tetra Pak is improving its systems through modernization and data analytics to better monitor operations. Sealed Air is exploring new production possibilities with collaborative machine solutions. Companies have seen an increase in line capacity by 80% while reducing the need for manual labor.

The technological advancements in the packaging industry are reshaping its landscape, offering unprecedented opportunities for innovation, sustainability, and efficiency.

Additionally, factory automation offers businesses a viable option to enhance operational efficiency while decreasing labor costs. The integration of collaborative machines in the packaging industry promises enhanced production optimization, data gathering and return on investment (ROI). Due to the distinguished success, Berry Global realized through the implementation of AI within its manufacturing capabilities, other industry leaders are beginning to look towards mergers and acquisitions (M&A) to quickly ramp up their own technological capabilities. Upskilling employees to operate machine software is viewed as key to becoming an industry leader.

Amazon developed the Al-powered Package Decision Engine to improve packaging efficiency for customer orders, aiming to optimize packaging matches, reduce waste and enhance delivery. By combining deep learning, natural language processing and computer vision, the model adjusts packaging needs for items based on fragility and protection requirements. This innovation supports Amazon's sustainability goals, significantly reducing packaging materials and was adopted globally due to its scalability compared to prior manual methods.

The technological advancements in the packaging industry are reshaping its landscape, offering unprecedented opportunities for innovation, sustainability and efficiency. Companies are looking to M&A as an effective strategy to rapidly increase their technology capabilities. Industry leaders Amcor and Smurfit WestRock continue to deploy an effective M&A strategy to expand their technological capabilities. As technology continues to evolve, the packaging industry is poised to further enhance its capabilities, contributing to a more sustainable and efficient global supply chain.

## **Market Insights**

May-24: Trivium Packaging (Ardagh Group, Ontario Teachers' Pension Plan) has announced that at least three parties have been invited forward into the second round of the sale process, including Platinum Equity, Apollo Global Management and Sonoco (NYSE:SON)

May-24: Clearwater Paper (NYSE:CLW) is considering the sale of its tissue products business; the process is still fielding initial bids as buyers review initial materials

**May-24: KKR** is planning to revisit a sale of Singapore-based bulk container provider, **Goodpack**, during 2024

**Jun-24: Pixelle Specialty Solutions**, a Pennsylvania-based manufacturer of specialty papers, has received significant debt and capital investment from its private equity sponsor, **HIG Capital**, positioning the company with the necessary liquidity for future growth

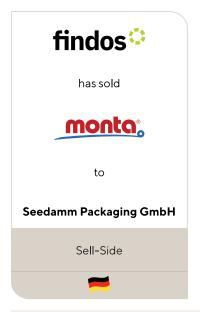
**Jun-24: Suzano (NYSE:SUZ)** has terminated communications with **International Paper (NYSE:IP)** after an unsuccessful attempt to acquire the business in an all cash offer presented earlier this quarter



## **Recent Lincoln International Packaging Transactions**





















#### **SELECT M&A TRANSACTIONS**

Date	Status	Target Company Acquiring Company						
May-24	Announced	Flexible Packaging Laminating Adhesives Business of Dow	Arkema (PA:AKE)					
Jun-24	Closed	Miele	Selematic (Mindful Capital Partners)					
Jun-24	Closed	Bartoli Packaging	Isem Packaging Group (Peninsula Capital)					
Jun-24	Closed	Riverside Medical Packaging	Sterimed (Sagard)					
Jun-24	Closed	BoingTech (Shanghai Inlay Link)	Fedrigoni (Bain Capital, BC Partners)					
Jun-24	Closed	Eviosys (KPS Capital Partners)	Sonoco Products Company (NYSE:SON)					
Jun-24	Closed	Insight Medical Technologies	Clarion Medical Technologies (Richards Packaging (TSX:RPI.UN))					
Jun-24	Closed	Stalwart Plastics	Sigma Plastics Group					
Jun-24	Closed	Pioneer Group (Pioneer Extruders)	Linhardt					
Jun-24	Closed	Heinlein Plastik-Technik	ALPLA Group					
Jun-24	Closed	Sisco Corporation	Berkley					
Jun-24	Closed	Pacman-CCL (Albwardy Investment)	CCL Industries (TSX:CCL.A)					
Jun-24	Closed	Columbia Corrugated Box Company, Inc.	SupplyOne (Wellspring Capital)					
Jun-24	Closed	SMC Packaging Group	Green Bay Packaging Inc.					
Jun-24	Closed	Idaho Package Company	BradyPLUS (Kelso & Company)					
Jun-24	Closed	Innovative Beauty Group (Albea Group)	Fremman Capital					
Jun-24	Closed	Propyplast	Leygatech					
May-24	Closed	Classic Home & Garden	The HC Companies (Platinum Equity Partners)					
May-24	Closed	Beyer Graphics	Resource Label Group (Ares Global)					
May-24	Closed	Bolsaplast	Universal Sleeve					
May-24	Closed	POLI-TAPE	Fedrigoni (Bain Capital, BC Partners)					
May-24	Closed	Clark Foam Corporation	Specialized Packaging Group (Altamont Capital Partners)					
May-24	Closed	Canpaco	Imperial Dade (Advent International, Bain Capital)					
May-24	Closed	Lic Packaging	Grupo Saica					
May-24	Closed	SACMI Labeling / Beverage	Omnia Technologies (Investindustrial)					



## **SELECT M&A TRANSACTIONS (CONTINUED)**

Date	Status	Target Company Acquiring Company				
May-24	Closed	Alain Chalaguier	Labelys			
May-24	Closed	Pigment Grafiti	Labelys			
May-24	Closed	Mosaiq	Arca Space Capital			
May-24	Closed	Russian Subsidiary of Ipackchem	Agricultural Asset Management			
May-24	Closed	Premier Packaging	Tide Rock			
May-24	Closed	UniquePak	TricorBraun (Ares Global, Ontario Teachers' Pension Plan)			
May-24	Closed	Alplas Products	TricorBraun (Ares Global, Ontario Teachers' Pension Plan)			
May-24	Closed	NPX One (Atlas Holdings)	Breck Partners			
May-24	Closed	Wolfpack Packaging	Imperial Dade (Advent International, Bain Capital)			
May-24	Closed	OZZI	Novolex (Carlyle)			
Apr-24	Closed	Cartonajes Limousin	Lemnos Capital			
Apr-24	Closed	insignia	Peacock Group			
Apr-24	Closed	Etiflex	ProMach (Leonard Green & Partners, BDT & MSD Capital Partners)			
Apr-24	Closed	Reelvision Print	Woodberry Packaging (Woodberry Capital)			
Apr-24	Closed	United Foils Europe	API Foilmakers			
Apr-24	Closed	Handgards (Wind Point Partners)	Wynnchurch Capital			
Apr-24	Closed	AmeriPac	Veritiv Corporation (Clayton, Dubilier & Rice)			
Apr-24	Closed	Hadepol Flexo	Coveris (Sun Capital Partners)			
Apr-24	Closed	The Weedon Group	Zeus			
Apr-24	Closed	Plastic Closures Business of Oricon Enterprises	Manjushree Technopack			
Apr-24	Closed	LTi Printing	MAX Solutions (Jefferson Capital Partners)			
Apr-24	Closed	VBC Bottling	Refresco			
Apr-24	Closed	Plastiform (Precision Formed Plastics)	Nefab Packaging			
Apr-24	Closed	Print Division of MASA Corporation	Fortis Solutions Group (Harvest Partners)			



#### **PUBLIC COMPANIES OPERATING STATISTICS AND VALUATION PARAMETERS**

(\$ in millions, except for stock price)

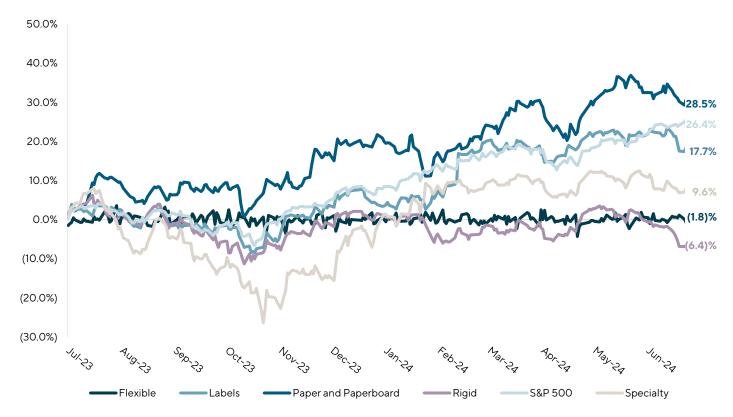
	Stock Price	% of 52 Week High	Market Cap	Enterprise Value	Lī	М	YoY		Enterprise Value / LTM	
Company Name					Revenue EBITDA		Revenue Growth	EBITDA Margin	Revenue	EBITDA
Flexible										
Amcor plc	\$9.93	94.3%	\$14,126	\$21,487	\$13,778	\$1,869	(6.2%)	13.6%	1.6x	10.7x
Berry Global Group, Inc.	58.85	84.1%	6,732	15,873	\$12,245	1,945	(9.3%)	15.9%	1.3x	8.2x
Huhtamäki Oyj	40.14	94.0%	4,205	5,660	4,126	521	(5.8%)	12.6%	1.3x	9.6x
Sealed Air Corporation	34.79	73.8%	5,066	9,465	5,470	1,081	(1.2%)	19.8%	1.7x	8.4x
Transcontinental Inc.	11.05	98.4%	957	1,658	2,850	408	(5.1%)	14.3%	0.8x	5.3x
Winpak Ltd.	32.62	97.3%	2,057	1,554	1,114	224	(7.9%)	20.1%	1.4x	7.0x
Mean		90.3%					(5.9%)	16.0%	1.3x	8.2x
Median		94.2%					(6.0%)	15.1%	1.4x	8.3x
Labels										
Avery Dennison Corporation	\$218.65	94.4%	\$17,613	\$20,632	\$8,451	\$1,335	(3.5%)	15.8%	2.4x	14.6x
CCL Industries Inc.	52.56	96.6%	9,435	10,611	6,735	1,302	2.9%	19.3%	2.2x	10.5x
Mean		95.5%					(0.3%)	17.6%	2.3x	12.6x
Median		95.5%					(0.3%)	17.6%	2.3x	12.6x
Paper & Paperboard										
Cascades Inc.	\$6.60	60.2%	\$666	\$2,173	\$4,613	\$432	0.0%	9.4%	0.6x	5.9x
DS Smith Plc	5.32	98.8%	7,335	10,199	6,822	932	(17.0%)	13.7%	1.2x	7.9x
Graphic Packaging Holding Company	26.21	88.8%	8,054	13,605	9,249	1,827	(4.3%)	19.8%	1.5x	7.0x
International Paper Company	43.15	91.0%	14,987	19,964	18,515	2,041	(8.5%)	11.0%	1.1x	8.6x
Mondi plc	19.19	88.3%	8,460	9,415	7,330	1,007	(11.5%)	13.7%	1.2x	8.4x
Packaging Corporation of America	182.56	95.4%	16,274	18,184	7,806	1,556	(2.8%)	19.9%	2.3x	10.7x
Smurfit Westrock Plc	0.00	n/a	11,563	14,693	11,272	1,895	(8.1%)	16.8%	1.2x	6.7x
Sonoco Products Company	50.72	82.2%	4,984	8,241	6,689	1,008	(7.2%)	15.1%	1.2x	7.4x
Mean		87.1%	•	••	.,	, , , , ,	(7.4%)	14.9%	1.3x	7.8x
Median		89.9%					(7.4%)	14.9%	1.3x	7.8x
Rigid										
Amcor plc	\$9.93	94.3%	\$14,126	\$21,487	\$13,778	\$1,869	(6.2%)	13.6%	1.6x	10.7x
AptarGroup, Inc.	140.81	92.8%	9,331	10,321	3,543	725	4.5%	20.5%	2.9x	13.4x
Berry Global Group, Inc.	58.85	84.1%	6,732	15,873	12,245	1,945	(9.3%)	15.9%	1.3x	8.2x
Crown Holdings, Inc.	74.39	77.2%	8,876	15,890	11,820	1,798	(4.3%)	15.2%	1.3x	8.5x
O-I Glass, Inc.	11.13	47.2%	1,733	6,411	6,867	1,136	(3.4%)	16.5%	0.9x	4.9x
Silgan Holdings Inc.	42.33	85.1%	4,520	8,092	5,887	857	(6.1%)	14.6%	1.4x	8.5x
Sonoco Products Company	50.72	82.2%	4,984	8,241	6,689	1,008	(7.2%)	15.1%	1.2x	7.4x
Mean	00.,2	80.4%	1,70	3,2 11	0,007	.,000	(4.6%)	15.9%	1.5x	8.8x
Median		84.1%					(6.1%)	15.2%	1.3x	8.5x
Specialty										
Ranpak Holdings Corp.	\$6.43	77.6%	\$534	\$901	\$340	\$63	6.3%	18.5%	2.6x	13.0x
Macfarlane Group PLC	1.50	80.7%	238	283	281	28	(4.1%)	10.1%	0.8x	6.2x
Catalent, Inc.	56.23	93.4%	10,176	15,004	4,135	355	(3.0%)	8.6%	3.6x	35.9x
Krones AG	125.58	87.9%	3,967	3,638	4,816	470	5.0%	9.8%	0.7x	7.2x
Sealed Air Corporation	34.79	73.8%	5,066	9,465	5,470	1,081	(1.2%)	19.8%	1.7x	8.4x
Mean	J <del>4</del> ./7	82.7%	3,000	7,400	3,470	1,001	0.6%	13.3%	1.7x	14.1x
i leali		02.7/0					0.0%	13.3%	1.7X	14.13

Source: Bloomberg, Capital IQ and company filings, as of June 30, 2024

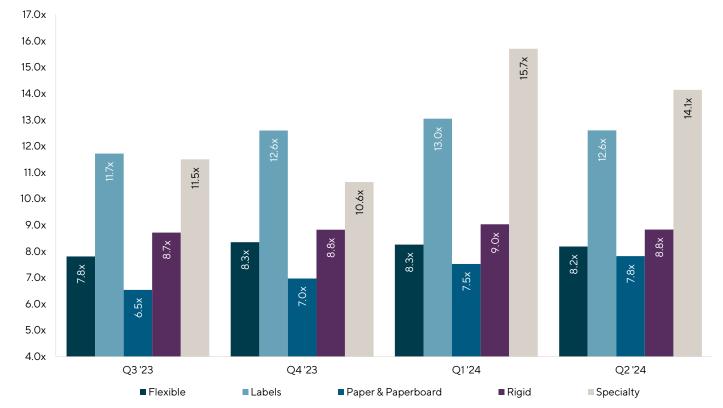


## **Global Packaging Valuations by Subsector**

#### LAST TWELVE MONTHS (LTM) RELATIVE STOCK PRICE PERFORMANCE



#### HISTORICAL ENTERPRISE VALUE / EBITDA VALUATION PERFORMANCE



Source: Bloomberg, Capital IQ and company filings, as of June 30, 2024



## **About Lincoln International**

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